

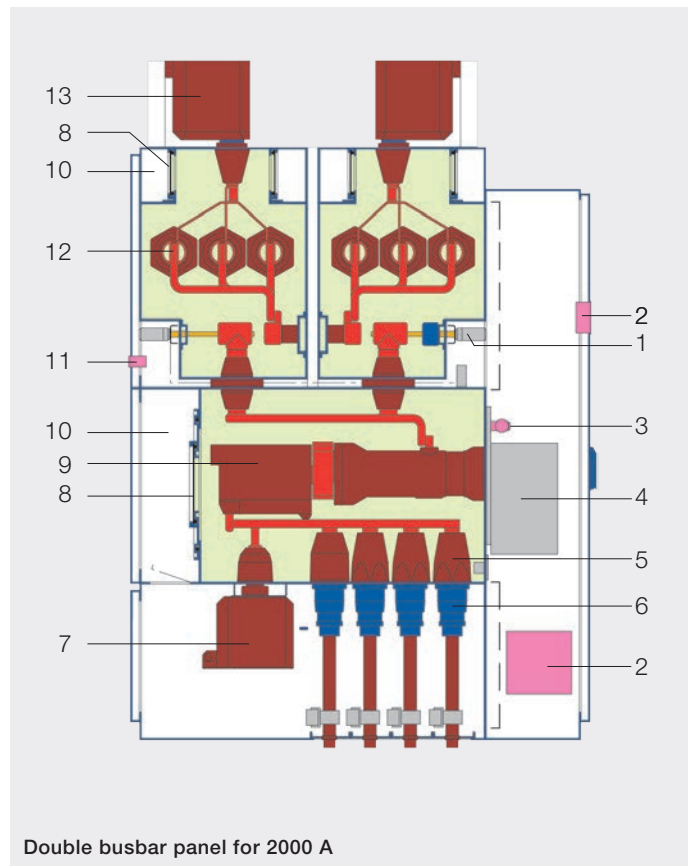


# ZX2

## Gas-insulated medium voltage switchgear

# ZX2

## Double busbar



### Versatile

Partitioned single or double busbar system for all applications – even with the most demanding parameters – up to 40 kV, up to 40 kA, for incoming feeders and sectionalizers up to 2500 A and for single busbars up to 4000 A.

All the switching devices can be remote controlled, and as an option mechanically interlocked. Both combined protection and control units and pure protection devices are used. The plug-in busbar technology without bolted joints permits simple and therefore safe installation.

The level of operator safety, already impressively confirmed by the IAC classification AFLR 40 kA 1s, can be even further enhanced by pressure relief channelled outside the building.

### Configuration opportunities

Together with incoming and outgoing feeder panels with circuit-breakers for various rated currents and thus various panel widths (400, 600 and 800 mm), panel variants for bus sectionalizers and couplers, pure disconnecter and metering panels round off the range. Busbar voltage measurement can also be implemented as an integrated function.

### Accessibility

Operator control is effected either remotely or at the front of the system. The power cables are accessible at the rear. The switchgear is installed free-standing in the room.

### SF<sub>6</sub> insulation

All high voltage parts are effectively isolated from fluctuating ambient influences in sealed enclosures filled with SF<sub>6</sub> insulating gas. Dust, humidity, harmful gases or vermin therefore have no effect. Temperature-compensated pressure sensors reliably and continuously monitor their own function and the quality of the gas insulation.

- 1 Three position disconnector
- 2 Multifunctional protection and control unit
- 3 Gas density sensor and filling valve
- 4 Vacuum circuit-breaker
- 5 Cable socket
- 6 Inner cone cable connector
- 7 Plug-in voltage transformer – feeder
- 8 Pressure relief disk
- 9 Current transformer or combined current and voltage sensor
- 10 Pressure relief duct
- 11 Measuring sockets for capacitive voltage indicator system
- 12 Busbars
- 13 Plug-in voltage transformer – busbar

Technical data		IEC Ratings			Special Ratings
Rated voltage	kV	12	24	36	
Maximum operating voltage	kV	12	24	36	42
Test voltages	kV	28/75	50/125	70/170	85/200
Rated frequency	Hz	50/60	50/60	50/60	50/60
Rated busbar current <sup>2)</sup>	A	... 1250 ... 2500	... 1250 ... 2500	... 1250 ... 2500	... 1250 ... 2500
Rated current of feeder	A	... 630 ... 1250 ... 2500	... 630 ... 1250 ... 2500	... 1250 ... 2500	... 1250 ... 2500
Rated peak withstand current	kA	... 62.5 ... 100	... 62.5 ... 100	... 100	... 100
Rated short-time current 3 s	kA	... 25 ... 40	... 25 ... 40	... 40	... 40
Internal Arc Classification <sup>1)</sup>	IAC AFLR 40 kA 1s				

<sup>1)</sup> according to VDE 0671 part 200

Pressure relief via duct in the switchroom or to the outside

<sup>2)</sup> Single busbar systems up to 4000 A on request

# ZX2 components

## Durable and reliable

### High quality components

The permanently installed vacuum circuit-breakers are three-phase switching devices and fundamentally consist of the mechanical stored-energy spring mechanism and three poles with the vacuum interrupters. The three position disconnectors constitute combined disconnectors and earthing switches. The three switch positions – connecting, disconnecting and earthing – are clearly defined by the mechanical structure of the switch, reliably excluding simultaneous connecting and earthing positions. For earthing, the three position disconnector – under no current – prepares the connection to earth.

Earthing proper is then performed by the circuit-breaker. A circuit-breaker in the function of an earthing switch is of higher quality than any other earthing switch. The combination of these high-quality switching devices with the sealed for life, SF<sub>6</sub>-filled enclosures guarantees maintenance-free switchgear. Irrespective of this, the enclosures with O-ring seals on all components and covers and the filler valves provide an opportunity for repairs. No minor damage necessitates replacement of a panel.



### Always the right connection

In the cable termination compartment, the power cables are connected with inner cone cable connectors, or with outer cone cable connectors depending on the current. Up to four parallel cables can be installed. Depending on the connection system, a surge arrester can either be added or fitted as an alternative to one cable.

A non-return valve on the SF<sub>6</sub>-filled stainless steel enclosure facilitates systematic extraction of the insulating gas at the end of a panel's service life.

### Current transformers

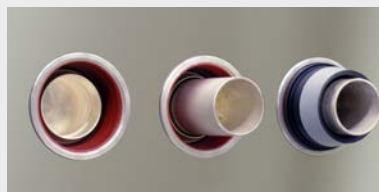
Generously dimensioned block-type or bushing-type current transformers with several cores supply the signals required for protection and measurement.

### Voltage transformers

Shockproof voltage transformers are plugged into inner cone sockets. These are removable or isolatable for test purposes, especially for cable testing.



Cable termination compartment with inner cone connectors



Plug-in busbar connection



Cable termination compartment with outer cone bushings

# Contact

This product contains Sulphur hexafluoride (SF<sub>6</sub>).

SF<sub>6</sub> is a fluorinated greenhouse gas with a GWP of 22800.

The maximum quantity per panel of panels is 18 kg, divided into maximally four compartments. That corresponds to a CO<sub>2</sub> equivalent of 410 t.

Each gas compartment has a gas leakage monitor, and therefore regular leakage testing (to Fluorinated Gas Regulation 517/2014) is not required.

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